present twice. In functional tremors, states of inhibition, paralysis agitans, alcoholic delirium and peripheral neuritis the reflex was absent. In forty cases of tabes in imperfect Babinski was observed in two; in anterior poleomyelitis and in a case of syringomyelia the reflexes were normal. In one case of acromegaly there was a Babinski reflex on the left side. In medullary spinal tumor, post-traumatic injury to the spinal column; spondylitis; cerebrospinal meningitis; cerebral tumor; paralytic dementia; cerebrospinal syphilis; spastic paraylsis; transverse myelitis; and bulbar paralysis the Babinski reflex was obtained. In fifteen of twenty-four cases of multiple sclerosis the Babinski was present. In sixty-three old cases of hemiplegia both Babinski and Oppenheim reflexes were present. There seems, therefore, good grounds for regarding it as a sign of a pathological spastic condition of the motor system.

4. *Monkey Brain.*—Ziehen gives a careful and excellent illustrated article upon the anatomy of the brain of the *Galeopithecus volans.* It is not suitable for an abstract.

J. Sailer (Philadelphia).

JAHRBUECHER FUER PSYCHIATRIE UND NEUROLOGIE

(Vol. 24, 1903, Nos. 2, 3.)

1. The Anatomical and Physiological Results of Hemisection of the Mesencephalon. Probst.
2. The Measurement of the Size of the Pupil and the Determination of the Light Reaction Time of the Pupil in Certain Psychoses and Diseases of the Nervous system. Alfred Fuchs.

1. *Hemisection of Mesencephalon.*—This paper contains the results of some carefully carried out and carefully observed animal experiments. The physiological as well as the anatomical phenomena are noted with the same care thus giving to this work an almost unique interest. In this abstract only the most important facts will be mentioned as the extent of the paper renders a full résumé impossible. The experimental data derived from the hemisection through the corpora quadrigeminal region of the cat and the hedge-hog are stated and the degeneration of the fiber tracts as well as the physiological symptoms are described. The animals remained alive for several weeks and were then killed and the whole nervous system was then sectioned in perfect series. The author attempts to prove the statement made by him before to the effect that in monkeys, dogs, cats and hedge-hogs all centripetal paths which go the mesencephalon end here in protoplasmic branching and that none of these fibers go unbroken through the internal capsule on their way to the cortex. Experiment No. 1. The territory between the anterior and the posterior quadrigeminal bodies was hemisected without any apparent lesion of the cerebrum or the cerebellum. This is easily accomplished. A small opening is bored in the sagittal line of the skull and through this, by means of the author's canula and retractor, the brain stem can be bisected. The whole central nervous system was studied in perfect series stained with osmic acid. The conclusion derived from a study of the series in this animal is that all centripetal "haubenbahn" end in the mesencephalon. There was not one degenerated fiber to be seen, in the internal capsule. The most striking physiological observation in a cat so operated upon is, that even a hemisection of the brain stem does not produce a permanent paralysis. Three weeks after such an operation the cat could spring and jump. At the same time the cortex was laid bare under chloroform and the motor area stimulated with faradic current. The left gyrus sigmoideus reacted by causing epileptiform convulsions limited to that side. On the right side slight twitching but no epileptiform attacks were noticed. In the second experiment in

addition to the hemisection the following structures were injured: The instrument went through the posterior right quadrigeminal body through the right "Hauben" field, through the "Schleife," the foot of the crurae to the pontine arm. In the caudal level the cut reached to the trochlear nucleus and ventrally through the pyramidal tract. A study of the serials in this brain failed to show a single degenerated fiber on its way through the internal capsule to the cortex. The physiological data of the first experiment are substantiated in this one, but owing to the greater compexity of the lesion the changes were more numerous. The same experiments were carried out on two hedge-hogs. The study of the serials of these brains gave a great deal of anatomical data on the course of the fiber tracts which is not easy to abstract. The fate of the centripetal fibers as found in the first series of experiments is proven by these two brains which were studied in the same careful way and in the same manner.

2. *Pupil Reaction Time.*—This paper is to be regarded as a very valuable addition to the means of careful neurological diagnosis at our disposal. The pupil so easily studied and for that reason so carelessly should be always subjected to the most careful tests before its phenomena can be of any value. To furnish these additional data is the purpose of this article. The two main purposes of this investigation are to consider the former methods of studying the pupil in respect to the determination of the size of the pupil and the rate of the light reaction. The second purpose is to use the results so obtained in the diagnosis of certain nervous affections. A history of the various methods of measuring the pupil is given with a description of the instruments in use. The author gives the results of his investigations in two tables, one in which the photographic method was used, and the other in which the instrument of Obersteiner-Redlich, called the Psychodometer, was used. The photographic method is naturally the most exact, but in certain cases, owing to the color of the iris, it can not be used. By the former method ninety-three cases and by the latter fifty-four were examined, and the results tabulated. The pupils were studied to determine the average time of the reaction and their average size. The results in amentia, acute psychoses and hallucinatory conditions were so variable that the author concludes that there is no constant law governing them. Fifteen cases were so examined. The six cases of melancholia and mania showed the same variability. For hysteria a lower rate of pupillary action was obtained, this is so marked and in such contrast to the speed found in epilepsy that the author believes that it can be used in a differential diagnostic way. In eleven cases of neurasthenia the light reaction was found to be rapid and prompt. The size of the pupil is large and the size before and after illumination is very distinctive. It was formerly believed that a considerable degree of spasmodic movement was characteristic of neurasthenia. This is disproven by the experience in this study where it was found possible to obtain a steady pupil by careful fixation and careful illumination. In seven cases of epilepsy it was found that a marked rapidity and an excursion of more than average was characteristic. In twelve cases of tabes and progressive paralysis one example of the so-called paradoxical pupil was found. These brief abstracts may serve to indicate the wealth of data interesting to the neurologist which this paper contains. For the further use of this method means of simplifying the examination must be devised. If this can be arranged a field hitherto almost unexplored will be opened.

Schwab (St. Louis).